

## 3.6 Vegetation and Wildlife

This section provides information on vegetation, wildlife, and wetland resources located in the project area. Potential effects on these resources that may result from the Proposed Action are identified, along with environmental commitments that will be implemented as part of the Proposed Action to avoid adverse effects on sensitive resources.

### 3.6.1 Affected Environment

#### Biological Communities

The project site supports nonnative annual grassland on the banks of and area between the California Aqueduct and the DMC and along the proposed corridor of the overhead transmission lines from the project site to the Tracy Pumping Plant (approximately 4.5 miles northwest of the project site). The area located between the canals has been affected by recent excavation operations for soil testing. The area is mowed annually and ROW maintenance is conducted regularly.

An intermittent drainage is located just north of the project site (south of DMC milepost 6.95). This feature runs west to east under both the aqueduct and the canal. During a field visit in August 2003, the drainage was completely dry just west of the aqueduct. Where the drainage emerges from a culvert located under and on the east side of the aqueduct, shallow, slow-moving water most likely flows year-round. The drainage then continues under and west of the DMC where water most likely flows year-round. Emergent vegetation is found in the drainage between the aqueduct and the DMC and consists of species such as willows (*Salix* spp.) and cattail (*Typha latifolia*). The vegetation becomes thicker and more extensive where the drainage emerges east of the DMC.

A second drainage is located south of the project site (approximately at DMC milepost 7.3), flowing from the west under the aqueduct to the east under the DMC. This drainage has year-round water flows and contains emergent vegetation (primarily cattail).

The project site and canals are surrounded by agricultural and fallow fields. The agricultural field located northwest of the project site has been recently disked and is not currently in production. All other surrounding fields are fallow, dominated by ruderal grasslands.

Numerous common wildlife species use the biological communities that occur in the study area. Annual grasslands support insects, amphibians, reptiles, and small birds and mammals that are preyed on by other wildlife, including red-tailed hawks, red-shouldered hawks, northern harriers, American kestrels, great

horned owls, California voles, deer mice, western harvest mice, California ground squirrels, and coyotes. Grasslands near open water are used by the most wildlife species (compared to other grasslands) because they provide places for resting, breeding, and escape cover.

## Special-Status Species

### Special-Status Plant Species

Fourteen special-status plants were identified during the prefield evaluation as potentially occurring in the project region (Table 3.6-1). Most of these species have a very low potential to occur in the study area because of the lack of suitable habitat conditions (Table 3.6-1).

One of these species, big tarplant (*Blepharizonia plumosa* ssp. *plumosa*) occurs in foothill grasslands and was the only species identified as having a moderate potential to occur in the study area. This species is identifiable between July and October and would have been evident, if present, during the August field survey. This species was not located during the 2003 field survey.

One other special-status plant, caper-fruited tropidocarpum (*Tropidocarpum capparideum*), was found in 1987 due north of the Intertie project site and just north of Grant Line Road (CNDDDB 2004), within 1 mile of the study area. This species typically occurs in alkali grasslands and is known primarily from the Mount Diablo foothills. Although this species would not have been identifiable during the August survey (the species is identifiable between March and April), there is no suitable habitat (alkali grassland habitat) for this species in the study area. In addition, the study area is heavily disturbed by previous and ongoing activities. This species has a low potential to occur in the study area and therefore is not addressed further in this document.

No other special-status plants have been reported in the study area (CNDDDB 2004), and no suitable habitat for the remaining special-status plants listed in Table 3.6-1 or the USFWS species list (contained in Appendix G) was identified during the August 2003 field survey.

The Jones & Stokes senior botanist determined that the study area has a low potential to support special-status plants and that an additional botanical field survey would not be necessary based on the following factors:

- the study area is heavily disturbed and is dominated by weedy, nonnative species;
- no suitable habitat conditions for special-status plants listed in Table 3.6-1 or the USFWS species list were identified in the study area;
- no special-status plants have been reported in or immediately adjacent to the study area; and

**Table 3.6-1.** Special-Status Plants Identified During the Prefield Investigation as Having the Potential to Occur in the Intertie Study Area

Common and Scientific Name	Legal Status <sup>a</sup>		Habitat Requirements	Blooming Period	Likelihood to Occur within Study Area <sup>b</sup>
	Federal/State/CNPS	Geographic Distribution			
Alkali milk-vetch <i>Astagalus tener</i> var. <i>tener</i>	--/--/1B	Alameda, Contra Costa, Merced, Monterey, Napa, San Benito, Santa Clara, San Francisco, San Joaquin, Solano, Sonoma, Stanislaus, and Yolo counties.	Playas, valley and foothill grassland (adobe clay), vernal pools / alkaline	March--June	Low; no suitable habitat conditions
Big tarplant, Blepharizonia plumosa ssp plumosa	SC/--/1B	Alameda, Contra Costa, San Joaquin, Stanislaus and Solano Counties.	Valley and foothill grasslands, meadows; dry hills and plains in annual grassland. Clay to clay-loam soils; usually on slopes and often in burned areas.	July--October	Moderate; this species would have been identifiable during the field survey
Caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>	SC/--/1A	Alameda, Contra Costa, Glenn, Monterey, Santa Clara and San Joaquin counties.	Valley and foothill grasslands; alkaline hills	March--April	Low; no suitable alkali grassland habitat conditions and extremely rare
Delta mudwort <i>Limonsella subulata</i>	--/--/2	Contra Costa, Sacramento, San Joaquin, and Solano counties; Oregon, and elsewhere.	Marshes and swamps	May--August	Low; no suitable habitat conditions
Diamond-petaled California poppy <i>Eschscholzia rhombipetala</i>	--/--/1B	Alameda, Contra Costa, Colusa, San Luis Obispo, and Stanislaus counties.	Valley and foothill grassland (alkaline, clay)	March--April	Low; no suitable alkali habitat conditions
Large-flowered fiddleneck <i>Amsinckia grandiflora</i>	E/E/1B	Alameda, Contra Costa, and San Joaquin counties.	Cismontane woodland, valley and foothill grassland	April--May	Low; no suitable habitat conditions and no nearby occurrences (CNDDB 2004)

Table 3.6-1. Continued

Common and Scientific Name	Legal Status <sup>a</sup>		Habitat Requirements	Blooming Period	Likelihood to Occur within Study Area <sup>b</sup>
	Federal/State/CNPS	Geographic Distribution			
Lemmon's jewelflower <i>Caulanthus coulteri</i> var. <i>lemmonii</i>	--/--/1B	Alameda, Fresno, Kings, Kern, Monterey, Santa Barbara, San Benito, San Joaquin, San Luis Obispo, Stanislaus, and Ventura counties.	Pinyon and juniper woodland, valley and foothill grassland	March—May	Low; no suitable habitat conditions
Mason's lilaeopsis <i>lilaeopsis masonii</i>	SC/--/1B	Known distribution extends from the margins of the Napa River in Napa County, east to the channels and sloughs of the Sacramento-San Joaquin Delta in Contra Costa, Solano, Sacramento, Yolo, and San Joaquin counties.	Freshwater and brackish marshes, riparian scrub; species is semi-aquatic and is usually found on saturated clay soils that are regularly inundated by waves and tidal action.	April–November	Low; no suitable habitat conditions
Mt. Diablo buckwheat <i>Eriogonum truncatum</i>	--/--/1A	Alameda, Contra Costa, and Solano counties.	Chaparral, coastal scrub, valley and foothill grassland / sandy	April—November	Low; no suitable habitat conditions
Rayless ragwort <i>Senecio aphanactis</i>	--/--/2	Alameda, Contra Costa, Fresno, Los Angeles, Merced, Orange, Riverside, Santa Barbara, Santa Clara, Santa Catalina Island, Santa Cruz Island, San Diego, San Luis Obispo, Solano, Santa Rosa Island, and Ventura counties; Baja California	Chaparral, ciemontane woodland, coastal scrub / alkaline	January—April	Low; no suitable habitat conditions
Recurved larkspur <i>Delphinium recurvatum</i>	--/--/1B	Alameda, Contra Costa, Colusa, Fresno, Kings, Kern, Merced, Monterey, San Luis Obispo, Solano, and Tulare counties.	Chenopod scrub, cismontane woodland, valley and foothill grassland / alkaline	March—May	Low; no suitable habitat conditions
Rose-mallow <i>Hibiscus lasiocarpus</i>	--/--2	Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties; elsewhere	Marshes and swamps (freshwater)	June—September	Low; no suitable habitat conditions

Table 3.6-1. Continued

Common and Scientific Name	Legal Status <sup>a</sup>		Habitat Requirements	Blooming Period	Likelihood to Occur within Study Area <sup>b</sup>
	Federal/State/CNPS	Geographic Distribution			
Round-leaved filaree <i>Erodium macrophyllum</i>	--/--/2	Alameda, Butte, Contra Costa, Colusa, Fresno, Glenn, Kings, Kern, Lake, Lassen, Los Angeles, Merced, Monterey, Napa, Riverside, Santa Barbara, San Benito, Santa Cruz Island, San Diego, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma?, and Stanislaus counties.	Cismontane woodland, valley and foothill grassland / clay	March—May	Low; no suitable habitat conditions with clay soils present in the study area
San Joaquin saltbush <i>Atriplex joaquiniana</i>	SC/--/1B	Alameda, Contra Costa, Colusa, Glenn, Merced, Monterey, Napa, Sacramento, San Benito, Santa Clara, San Joaquin, Solano, Tulare and Yolo counties.	Chenopod scrub, valley and foothill grassland, meadows and seeps. Seasonal alkali wetlands or alkali sink scrub.	April—October	Low; no suitable alkali habitat conditions
Showy madia <i>Madia radiata</i>	--/--/1B	Contra Costa, Fresno, Kings, Kern, Monterey, Santa Barbara, San Benito, San Joaquin, and San Luis Obispo counties.	Cismontane woodland, valley and foothill grassland	March—May	Low; no suitable habitat conditions

## Notes:

<sup>a</sup> Status explanations:**Federal**

E = listed as endangered under the federal Endangered Species Act.

T = listed as threatened under the federal Endangered Species Act.

SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking

– = no listing.

**State**

E = listed as endangered under the California Endangered Species Act.

– = no listing.

**California Native Plant Society (CNPS)**

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.

2 = List 2 species: rare, threatened, or endangered in California but more common elsewhere.

– = no listing.

<sup>b</sup> Definitions of levels of occurrence likelihood:

- High: Known occurrence of plant in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions and suitable microhabitat conditions.
  - Moderate: Known occurrence of plant in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions but suitable microhabitat conditions are not present.
  - Low: Plant not known to occur in the region from the Natural Diversity Data Base, or other documents in the vicinity of the project; or habitat conditions of poor quality.
  - None: Plant not known to occur in the region from the Natural Diversity Data Base, or other documents in the vicinity of the project; or suitable habitat not present in any condition.
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- no special-status plants were observed during the August 2003 field survey.

## **Special-Status Wildlife Species**

Based on a review of existing information, including a search of the CNDDDB and species distribution and habitat requirements data, 18 special-status wildlife species were identified during the prefield review as having the potential to occur within the project region. The listing status, preferred habitat, and potential for occurrence in the study area for each of these species are listed in Table 3.6-2.

Of the 18 special-status wildlife species identified in Table 3.6-2, 10 would not occur in the project area because it lacks suitable habitat for the species or because it is outside the species' known range. An explanation for the absence each of these species from the study area is provided in Table 3.6-2. Although the study area provides some potential foraging habitat for white-tailed kite, tricolored blackbird, and two bat species (western mastiff bat and Townsend's western big-eared bat), these species do not breed in or adjacent to the study area and would not be affected by project construction.

A total of four special-status wildlife species (California red-legged frog, Swainson's hawk, burrowing owl, and San Joaquin kit fox) were documented or have the potential to occur in the study area based on the presence of suitable habitat; these species are discussed below.

### **San Joaquin Kit Fox**

The San Joaquin kit fox is Federally listed as a threatened species and State-listed as a threatened species. San Joaquin kit foxes inhabit grasslands and scrublands, many of which have been extensively modified. Types of modified habitats include those with oil exploration and extraction equipment and wind turbines, and agricultural mosaics of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands. Oak woodland, alkali sink scrubland, and vernal pool and alkali meadow communities also provide habitat for kit foxes. Dens are scarce in areas with shallow soils because of the proximity to bedrock, high water tables, or impenetrable hardpan layers. Kit foxes are active year-round and are primarily nocturnal. Dens are used for housing and protection. One fox may use several dens, particularly during the summer months. Females may change natal and pupping dens one or two times per month. Kit foxes construct their own dens, but they can also enlarge or modify burrows constructed by other animals, such as ground squirrels, badgers, and coyotes. They also den in human-made structures, such as culverts, abandoned pipes, and banks in roadbeds. Most dens, especially natal and pupping dens, have at least two entrances.

Although kit foxes may not breed their first year, they are able to reproduce when they are 1 year old. Adult pairs remain together year-round but may not share the same den. During September and October, the females begin to ready the natal or pupping den. Mating usually takes place between late December and March, and the median gestation period is estimated to range from 48 to 52 days. Litters are born between February and late March and consist of two to six pups. The

pups emerge from the den for the first time when they are slightly older than 1 month. After 4 to 5 months, usually in August or September, the young begin dispersing.

The historical range of the San Joaquin kit fox included most of the San Joaquin Valley from the vicinity of Tracy, San Joaquin County, southward to southern Kern County. Currently, kit foxes occur in the remaining native valley and foothill grasslands and chenopod scrub communities of the valley floor and surrounding foothills from southern Kern County north to Los Banos, Merced County. Depending on the extent of agricultural development, distribution is spotty within this broad range. A migration corridor has been recorded for areas located between and surrounding the California Aqueduct and Delta-Mendota Canal; this area includes the project study area

The study area is recognized by the San Joaquin Kit Fox Working Group to be a migration corridor, contains numerous rodent burrows that could provide potential denning habitat, and provides an adequate prey base for the San Joaquin kit fox. In addition, several occurrences of kit fox have been recorded within 3 miles south of the study area and in an area located between the DMC and California Aqueduct (CNDDDB 2004). Therefore, it is likely that San Joaquin kit fox occur in the study area and adjacent annual grasslands.

### **California Red-Legged Frog**

The red-legged frog is Federally listed as a threatened species. They live in moist forests and wetlands with trees, breeding in shallow ponds or slow streams that are well shaded. Its range is from the Sierra Nevada to northern Baja. Adult frogs spend much of their time on land, sometimes straying measurable distances from the water. They may move up to 1 mile up or down a drainage and are known to wander throughout riparian woodlands up to several dozen meters from the water. On rainy nights the frogs may roam away from aquatic sites to upland areas as far as 1 mile (U.S. Fish and Wildlife Service 1997).

Red-legged frogs begin to mate and lay their eggs very early in spring from January to March. They prefer shallow, slow-moving streams, ponds, or marshes for breeding. Females lay eggs in large, jelly-like clusters of 750–1,300, attaching the clusters loosely to stems of aquatic plants just below the surface in permanent bodies of water. Embryos develop and hatch in about 4 weeks, then spend 4 to 5 months in the tadpole stage. Tadpoles metamorphose into tiny hopping froglets, only a couple of centimeters long, in midsummer.

Suitable aquatic habitat for red-legged frogs occurs at the project site in two drainages—one located just northwest (south of DMC milepost 6.95) and one located south of the project site at DMC milepost 7.25. Two sightings of the species were documented within the drainages that cross underneath both the aqueduct and the DMC (CNDDDB 2004).

Protocol-level surveys for red-legged frog were conducted along the California Aqueduct corridor by Jennifer Hogan of DWR in August 2003. Results of those surveys revealed an adult red-legged frog along the aqueduct at milepost 9.1 and



**Table 3.6-2.** Special-Status Wildlife Species Identified During the Prefield Investigation as Having the Potential to Occur in the Intertie Study Area

Common and Scientific Name	Status <sup>a</sup>		California Distribution	Habitats	Occurrence in Study Area <sup>b</sup>
	Federal	State			
California horned lizard <i>Phrynosoma coronatum frontale</i>	SC	–	Frequents a wide variety of habitats, most common in Valley lowlands along sandy washes with scattered low bushes.	Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Low; known occurrences within a ten-mile radius (CNDDDB 2004; no suitable habitat in the study area.
California red-legged frog <i>Rana aurora draytonii</i>	T	–	Lowlands and foothills in or near permanent sources of deep water with dense, shrubs or emergent riparian vegetation	Requires 1–20 weeks of permanent water for larval development, must have access to aestivation habitat.	High; suitable habitat and recorded occurrence near project site.
California tiger salamander <i>Ambystoma californiense</i>	PE	–	West of the Sierra Nevada between Sonoma and Santa Barbara Counties, California.	Requires underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	Low; suitable habitat is present but is isolated from proposed construction by residential development.
Northwestern pond turtle <i>Clemmys marmorata marmorata</i>	SC	–	Occurs from the Oregon border of Del Norte and Siskiyou Counties south along the coast to San Francisco Bay, inland through the Sacramento Valley, and on the western slope of Sierra Nevada	Occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms and with watercress, cattails, water lilies, or other aquatic vegetation in woodlands, grasslands, and open forests	Low; suitable habitat is present but is isolated from proposed construction by residential development.
White-tailed kite <i>Elanus leucurus</i>	SC	FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County	Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands	Moderate; no suitable nesting tress on site; could forage over the study area.

Table 3.6-2. Continued

Common and Scientific Name	Status <sup>a</sup>		California Distribution	Habitats	Occurrence in Study Area <sup>b</sup>
	Federal	State			
Riparian San Joaquin Valley woodrat <i>Neotoma fuscipes riparia</i>	E	–	Riparian areas along the San Joaquin, Stanislaus and Tuolumne Rivers.	Requires areas with mix of brush and trees; suitable nesting sites in tree snags or logs.	Low; no suitable habitat.
San Joaquin kit fox <i>Vulpes macrotis mutica</i>	E	T	Grasslands and scrublands within the San Joaquin Valley and surrounding foothills from southern Kern County north to Los Banos, Merced County	Requires loose-textured soils for burrows and suitable prey base; found in agricultural mosaics of row crops, irrigated pastures, orchards, vineyards, and grazed annual grasslands, valley/coastal mountain interface, and agricultural land.	High; recognized migration corridor.
San Joaquin pocket mouse <i>Perognathus inornatus inornatus</i>	SC	–	Typically found in San Joaquin Valley grasslands and blue oak savannas.	Requires friable soils	Low; known occurrences within a ten-mile radius (CNDDDB 2004); no suitable habitat present in the study area.
San Joaquin whipsnake <i>Masticophis flagellum ruddocki</i>	SC	–	Valley grasslands and saltbush scrub in the San Joaquin Valley.	Prefers open, dry habitats with little to no cover; requires mammal burrows for refuge and oviposition sites.	Low; known occurrences within a ten-mile radius (CNDDDB 2004); no suitable habitat in the study area.

Table 3.6-2. Continued

Common and Scientific Name	Status <sup>a</sup>		California Distribution	Habitats	Occurrence in Study Area <sup>b</sup>
	Federal	State			
Silvery legless lizard <i>Anniella pulchra pulchra</i>	SC	-	Primarily from coastal dunes of the Monterey Peninsula and Monterey Bay between the Salinas and Carmel rivers. However, <i>Anniella</i> with dark backs and other morphological traits resembling the black legless lizard have been collected north of the Salinas River as far as the San Francisco Bay area and south of the Carmel River in the Morro Bay and Pismo Beach areas, and on the Santa Maria dune sheet at the Guadalupe (San Luis Obispo County) and Mussel Rock (Santa Barbara County) dunes.	Restricted to coastal and interior dunes and other areas of sandy soils.	Low; no suitable habitat.
Swainson's hawk <i>Buteo swainsoni</i>	SC	T	Lower Sacramento and San Joaquin Valleys, the Klamath Basin, and Butte Valley. Highest nesting densities occur near Davis and Woodland, Yolo County	Nests in oaks or cottonwoods in or near riparian habitats. Forages in grasslands, irrigated pastures, and grain fields	Moderate; no suitable nest trees are present in the study area; documented nest sites within a ten-mile radius from study area (CNDDDB 2004); foraging habitat is present.
Western burrowing owl <i>Athene cunicularia hypugea</i>	SC	—	Lowlands throughout California, including the Central Valley, northeastern plateau, southeastern deserts, and coastal areas. Rare along south coast	Level, open, dry, heavily grazed or low grassland or desert vegetation with available burrows	High; numerous nest sites have been document adjacent to study area (CNDDDB 2004); suitable nesting and foraging habitat is present in study area

Table 3.6-2. Continued

Common and Scientific Name	Status <sup>a</sup>		California Distribution	Habitats	Occurrence in Study Area <sup>b</sup>
	Federal	State			
Townsend's western big-eared bat <i>Corynorhinus townsendii townsendii</i>	SC	–	Humid coastal regions of northern and central California	Roost in limestone caves, lava tubes, mines, buildings etc.	Low; no suitable roosting habitat; could forage over the study area
Tricolored blackbird <i>Agelaius tricolor</i>	SC	–	Permanent resident in the Central Valley from Butte County to Kern County. Breeds at scattered coastal locations from Marin County south to San Diego County and at scattered locations in Lake, Sonoma, and Solano Counties. Rare nester in Siskiyou, Modoc, and Lassen Counties.	Nests in dense colonies in emergent marsh vegetation, such as tules and cattails, or upland sites with blackberries, nettles, thistles, and grainfields. Habitat must be large enough to support 50 pairs. Probably requires water at or near the nesting colony.	Low; no suitable nesting habitat; could forage over the study area.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	–	Only in the Central Valley of California, in association with blue elderberry ( <i>Sambucus mexicana</i> ).	Survival is dependent on the host plant, <i>Sambucus mexicana</i> .	None; no suitable habitat (elderberry shrubs) present.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T	–	Endemic to the grasslands of the central valley, central coast mountains and south coast mountains in astatic pools.	Dependent on basalt-flow depression pools.	None; no suitable habitat (vernal pools) present.
Western mastiff bat <i>Eumops perotis californicus</i>	SC	–	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral.	Roosts in crevices and cliff faces, high buildings, tress and tunnels.	Moderate; no suitable roosting habitat; could forage over the study area
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	–	E	Riparian forest, along broad, lower flood-bottoms of larger river systems.	Requires riparian jungles for nesting of willow, often mixed with cottonwoods.	None; study area is not within the known range of the species; no suitable habitat.

## Notes:

<sup>a</sup> Status explanations**Federal**

E = listed as endangered under the federal Endangered Species Act

SC = species of concern; species for which existing information indicates it may warrant listing but for which substantial biological information to support a proposed rule is lacking

PR = Bald and Golden Eagle Protection Act

– = No listing

**State**

E = listed as endangered under the California Endangered Species Act

T = listed as threatened under the California Endangered Species Act

FP = fully protected under the California Fish and Game Code

SSC = species of special concern in California

– = No listing

<sup>b</sup> Definitions of levels of Occurrence likelihood:

High: Known occurrence of animal in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions and suitable microhabitat conditions.

Moderate: Known occurrence of animal in region from Natural Diversity Data Base, or other documents in the vicinity of the project; or presence of suitable habitat conditions but suitable microhabitat conditions are not present.

Low: Animal not known to occur in the region from the Natural Diversity Data Base, or other documents in the vicinity of the project; or habitat conditions of poor quality.

red-legged frogs at milepost 8.5. In addition, breeding habitat was identified at California Aqueduct milepost 8.1, and it was deduced that a migration corridor existed between the California Aqueduct milepost 8.1 and milepost 9.1.

### **Western Burrowing Owl**

The western burrowing owl (*Athene cunicularia*) is a Federal species of concern and a State species of special concern, and their nests are protected by California Fish and Game Code Section 3503.5. Potential burrowing owl habitat (nonnative annual grassland) may be occupied by this species during the breeding and non-breeding seasons. They are found in open, dry grasslands, agricultural lands and rangelands, and desert habitats often associated with burrowing animals, particularly prairie dogs, ground squirrels, and badgers. Western burrowing owls are found in western North America from Canada to Mexico and east to Texas and Louisiana.

The nesting season begins in late March or April. Burrowing owls nest underground in abandoned burrows dug by mammals or, if soil conditions allow, they will dig their own burrows. They will also use human-made nest boxes placed underground. Adults usually return to the same burrow or a nearby area each year. One or more “satellite” burrows can usually be found near the nest burrow and are used by adult males during the nesting period and by juvenile owls for a few weeks after they emerge from the nest. Eggs are incubated for 28–30 days. At 14 days, the young may be seen roosting at the entrance to the burrow, waiting for the adults to return with food. They fledge (leave the nest) at about 44 days and begin foraging for living insects when they are 49–56 days old.

Breeding and wintering habitat for burrowing owls occurs in the study area, along the banks of the canals or in areas with sparse vegetation, such as adjacent fallow fields and ruderal areas. Multiple records of burrowing owls occur within 1 mile of the study area and along the transmission line corridor (California Natural Diversity Database 2003).

### **Swainson’s Hawk**

Swainson’s hawk is a Federal species of concern and State-listed as threatened. Swainson’s hawk is a large, broad-winged hawk that frequents open country. This hawk is a long-distance migrator, and its nesting grounds can be found in northwestern Canada, the western U.S., and Mexico. Nest construction and courtship continue thorough April. The clutch is generally laid in early April to early May but may be later. Incubation lasts 34–35 days, and the young fledge approximately 42–44 days after hatching. In the Central Valley of California, Swainson’s hawk nests are generally found in scattered trees or trees at least 20 to 30 feet tall along riparian systems adjacent to agricultural fields or pastures. Preferred nest trees include valley oaks (*Quercus lobata*), Fremont’s cottonwood, willows, sycamores (*Platanus* spp.) and walnuts (*Juglans* spp.). Open pastures or fields are the primary foraging areas. Hawks have been known to use in excess of 15,000 acres of habitat range up to 18 miles from the nest in search of prey (Estep 1989).

Adjacent and surrounding fallow fields and ruderal grasslands support suitable foraging habitat for Swainson's hawk. The closest records of nesting Swainson's hawk occur approximately 4.5 miles northeast of the study area along the Old River (California Natural Diversity Database 2004). There are no recorded occurrences of nesting Swainson's hawks along the proposed transmission line corridor (California Natural Diversity Database 2004). No suitable nesting habitat for this species occurs in the study area because the only trees present are willows that do not reach an appropriate nesting height.

## 3.6.2 Approach

### Methodology

The methods used to identify vegetation, wildlife, and wetland resources in the Proposed Action study area comprised a prefield investigation, coordination with resource agencies, and a reconnaissance-level field survey. Each of these elements is described in this section. For the purpose of this document, the "study area" included the construction easement around the Intertie project site and 300 feet beyond the easement boundaries (to assess potential habitat for special-status species).

### Prefield Investigation and Agency Coordination

To prepare for the field survey, the Jones & Stokes biologist reviewed the following information:

- a California Natural Diversity Database (CNDDDB) records search for the Tracy, Midway, CCF, Union Island, Vernalis, Lathrop, Solyo, Lone Tree Creek, and Cedar Mountain). 7.5-minute USGS quadrangles (California Natural Diversity Database 2004);
- the California Native Plant Society's (CNPS's) 2002 Inventory of Rare and Endangered Plants of California, for San Joaquin and Alameda Counties;
- list of special-status species provided by USFWS on October 23, 2003 (Appendix G); and
- Jones & Stokes file information gathered for other projects in the region.

The following resource agencies were contacted to discuss the potential effects of the proposed action on special-status species:

- **U.S. Department of Interior, Bureau of Reclamation**—Paul Aguirre (wildlife biologist), J. Carl Dealy (Intertie project manager), and Jim Goodwin (civil engineer);
- **Department of Fish and Game**—Gina Van Klompenburg (wildlife biologist) and Eric Morrisette (wildlife biologist);

- **Department of Water Resources**—Jennifer Hogan (wildlife biologist);
- **U.S. Fish and Wildlife Service**—John Brooks (wildlife biologist); and
- **California Native Plant Society**—David Tibor (rare plant botanist).

This information and coordination with these agencies were used to develop lists of special-status species and other sensitive biological resources that could have been reported previously in the region. Species were included in these lists if they were known to occur in the project region and if their habitats could be located in the project vicinity.

## Field Surveys

A biological survey was conducted on August 23, 2003, by a Jones & Stokes biologist. The purpose of the biological field survey was to:

- characterize biological communities and their associated wildlife habitat uses;
- identify and characterize habitat for special-status wildlife species;
- determine whether suitable habitat is present for early blooming special-status plants and determine whether late blooming special-status plants are present in the study area; and
- identify areas that may be considered waters of the United States, (including potential jurisdictional wetlands) and assist Reclamation in avoiding effects on these features.

A list of plant and wildlife species observed during the August field survey remains on-file at Jones & Stokes.

Methods and terms used to document special-status species and waters of the United States (including wetlands) are described below.

## Special-Status Species

For the purpose of this document, special-status species are defined as:

- species listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (ESA) (Title 50, CFR, Section 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register [FR] for proposed species);
- species that are candidates for possible future listing as threatened or endangered under ESA (67 FR 40657, June 13, 2002);
- species that are Federal species of concern (i.e., former USFWS C1 or C2 candidates);



- species that are listed or proposed for listing by the State of California as threatened or endangered under the CESA (Title 14, California Code of Regulations [CCR], Section 670.5);
- plants listed as rare under the California Native Plant Protection Act of 1977 (California Fish and Game Code, Section 1900 et seq.);
- plants considered by CNPS to be “rare, threatened, or endangered in California”;
- species that meet the definitions of rare or endangered under the State CEQA Guidelines, Section 15380; and
- animals fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

### **Special-Status Plant Survey**

The Jones & Stokes biologist conducted a survey and habitat assessment in the study area on August 23, 2003. During the field survey, the biologist walked all of the study area to assess existing conditions and survey for special-status plants that would have been identifiable during the August field survey (Table 3.6-1).

### **Special-Status Wildlife Survey**

The Jones & Stokes biologist also conducted a habitat-based field assessment on August 23, 2003, to determine the presence, distribution, and amount of habitat capable of supporting special-status species identified as having potential to occur in the study area (Table 3.6-2). During the field survey, the biologist walked the entire study area, noted each habitat type present, and evaluated it for potential to support special-status species.

## **Identification of Potential Waters of the United States (Including Wetlands)**

*Waters of the United States* is the encompassing term for areas under Federal jurisdiction under Section 404 of the Federal Clean Water Act. For the purpose of this analysis, waters of the United States are categorized as either *wetlands* or *other waters of the United States*. Wetlands are defined as “areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[b], 40 CFR 230.3). To be considered under Federal jurisdiction, a wetland must support positive indicators for hydrophytic vegetation, hydric soil, and wetland hydrology. *Other waters of the United States* are seasonal or perennial bodies of water, including lakes, stream channels, drainages, ponds, and other surface water features, that exhibit an ordinary high-water mark (OHWM) but lack positive indicators for one or two of the three wetland parameters (33 CFR 328.4).

During the field survey, the biologist walked the study area to locate areas that could qualify as waters of the United States (as defined above). These potential

areas were identified based on observable characteristics, such as aquatic vegetation, topography, and the presence of standing water. A formal wetland delineation was not conducted as part of this field survey because Reclamation is going to avoid direct effects (including placement of all fill material) on waters of the United States (including wetlands).

## Significance Criteria

The criteria for determining significant impacts on biological resources were developed by reviewing State CEQA Guidelines, NEPA guidelines, and local land management plans, and with resource agency guidance. Based on these sources of information, the Proposed Action would likely cause a significant impact if it would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by DFG or USFWS, including reducing the number or restricting the range of an endangered, rare, or threatened species;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local, State, or Federal regional plans, policies or regulations, including long-term degradation of a sensitive plant community because of substantial alteration of a landform or site conditions (e.g., alteration of wetland hydrology);
- have a substantial adverse effect on Federally protected wetlands as defined by CWA Section 404 through direct removal, filling, hydrological interruption, or other means;
- result in any direct or indirect disturbance of habitat designated as an Endangered Species Habitat Area (as defined by the local Land Use Plan [LUP] that results in disruption of protected resources and habitat values);
- substantially reduce the habitat of a wildlife species, cause a wildlife population to drop below self-sustaining levels, or threaten to eliminate a plant or animal community;
- interfere substantially with the movement of any native resident or migratory wildlife species or with established native resident or migratory wildlife corridors by blocking access, fragmenting access, or permanently eliminating known wildlife corridors in areas known for frequent and substantial wildlife movement that provide important links between habitat areas; or
- impede the use of native wildlife nursery sites or directly harm nesting species protected under the provisions of the Migratory Bird Treaty Act (MBTA).

### 3.6.3 Environmental Consequences

#### Impact Mechanisms

Vegetation and wildlife resources could be directly or indirectly affected by the Proposed Action. The following types of activities could cause impacts on biological resources. These impact mechanisms were used to assess project-related effects on vegetation, wildlife, and wetland resources in the study area:

- grading and paving activities during construction and building activities, potentially removing habitat and individuals of special-status species;
- temporary stockpiling and sidecasting of soil, construction materials, or other construction wastes;
- soil compaction, dust, and water runoff from the construction and development site;
- construction-related noise (from equipment);
- development of soil stockpiling areas to contain material from excavation; and
- degradation of water quality in the two drainages, resulting from construction runoff containing petroleum products.

#### Impact Assumptions

Construction activities associated with the Proposed Action could result in temporary or permanent effects on vegetation, wildlife, and wetland resources located in the study area. In assessing the magnitude of possible effects, the following assumptions were made regarding construction-related impacts on resources.

- All equipment and vehicle staging would occur on one of the staging areas that have been identified for the proposed project.
- The extent of biological communities that would be removed during construction activities was estimated using the most current project information provided by the project engineers.
- No fill material will be directly placed within any waters of the United States.
- A 16-to-24-inch corrugated pipe would be placed along the western side of the DMC access road to prevent further erosion of the access road. This construction would require some work in the southern end of the northernmost drainage along the upper slopes. However, construction would take place when the drainage is dry at that location, and primary and

secondary erosion control measures would be implemented during construction to prevent silt and sediment from entering the drainage.

- No woody riparian species would be removed as part of the Proposed Action.
- Construction of the 4-mile transmission line would not adversely affect any sensitive biological resources. This analysis assumes that the transmission towers would avoid all placement of fill into all waters of the United States.
- Although no floristic botanical surveys were conducted in the study area, it was determined by a Jones & Stokes senior botanist (Dr. Rob Preston), that the project area would have a relatively low potential to support special-status plants (for the reasons listed previously) and that no additional botanical surveys would be necessary. Therefore, it was determined that the proposed project would not affect special-status plants, and these species are not discussed in the environmental consequences section.
- Reclamation will implement all measures identified in the project description and environmental commitments to avoid adverse effects on special-status species, waters of the United, and sensitive vegetation communities (e.g., riparian vegetation).
- If any staging areas, laydown areas, office sites, or spoils areas are identified outside the study area, they will be located within previously graded, paved, or disturbed areas that do not support any sensitive biological resources. These staging areas will be evaluated and approved by Reclamation prior to the contractor's use of the area.

## No Action Alternative

This alternative would consist of the continuation of the existing conditions. Reclamation would continue to operate and maintain the DMC as it currently is. There would be no new adverse effects on vegetation, wildlife, or wetland resources under the No Action Alternative.

## Proposed Action Alternative

### Impact BIO-1: Effects on San Joaquin Kit Fox

Potential adverse effects on this species are possible if an active den occurs near the transmission route or the Intertie project site. In addition, the Intertie facilities could affect use of the area between the DMC and the California Aqueduct, and San Joaquin kit fox could use the area as a migration corridor. The Intertie site facilities may narrow the migration corridor, thereby affecting the species through habitat modification. With the following measures, which have been incorporated into the project design, this impact is considered less than significant:

- **Avoid San Joaquin kit fox dens by conducting preconstruction searches and implementing protection measures, if necessary.** Within 30 days

before the beginning of construction activities, qualified wildlife biologists (as defined by USFWS) will conduct systematic kit fox den searches in all suitable habitat subject to ground-disturbing activities in the proposed action area and a 200-foot-wide buffer around this area. Biologists will conduct den searches by systematically walking 30- to 100-foot-wide transects throughout the survey area. If a den is found, biologists will measure the size; evaluate the shape of the den entrances; and note tracks, scat, prey remains, or recent excavations at the site. Dens will be classified in one of three den status categories (potential den, known den, or natal or pupping den), consistent with those defined by USFWS (U.S. Fish and Wildlife Service 1997b).

All dens will be assigned a number and mapped on topographic maps. Den sites will be flagged in the field with pin flags marked with the den number. Potential, known, and natal or pupping dens will be distinguished from each other in the field by the pin flag color. Disturbance and destruction of dens will be avoided. Reclamation will notify USFWS and DFG immediately if a natal or pupping den is found in the survey area. Reclamation will notify USFWS and DFG verbally of the results of preconstruction den searches and den excavations within 5 days after these activities are completed and before the start of construction in the area. Reclamation will notify USFWS and DFG of the results in writing within 30 days after these activities are completed.

- **Avoid San Joaquin kit fox dens by establishing and observing exclusion zones.** Following preconstruction kit fox den searches and den excavations and before construction, qualified wildlife biologists will establish exclusion zones around the remaining dens following the procedures described by USFWS. Exclusion zones will be marked in the field with stakes and flagging. The radius of the zones will be as follows:

- potential den—50 feet
- known den—100 feet, and
- natal or pupping den—to be determined in coordination with USFWS.

Construction-related activities will be prohibited or greatly restricted within these zones. Essential vehicles operation on existing roads and foot travel will be permitted. All other construction activities, vehicle operation, material and equipment storage, and other surface-disturbing activities will be prohibited within the exclusion zones. All stakes and flagging will be removed within 60 days after construction.

- **Avoid San Joaquin kit fox migration corridor.** In order to avoid impacts on the potential wildlife migration corridor between the DMC and California Aqueduct, fencing will be limited to the general areas surrounding the pumping plant and canal turnouts. During the construction phase of the project, after each working day, a minimum 200-foot-wide area will be kept free of impediments that might block the corridor. In addition, upon completion of the construction of the Intertie, only the intake and outlet structures at each canal will be surrounded by permanent fencing. The flow

measurement structure will not be enclosed. The corridor will remain unblocked, allowing kit fox and other wildlife to move freely through the area.

### **Impact BIO-2: Effects on Red-Legged Frog**

The project site is proposed to be located along the DMC and outside the drainages and would thereby not directly interfere with the migration corridor along the aqueduct between mileposts 8.1 and 9.1. Construction activities would not take place along the aqueduct between mileposts 8.1 and 9.1, as they would be restricted to access roads along the DMC and the area between the two canals at DMC milepost 7.10. Although the migration corridor and drainages will be avoided, project activities will take place near these resource areas.

Therefore, measures have been incorporated into the project design to avoid red-legged frogs and their habitat and prevent any indirect impacts during project construction. These measures include: placing exclusionary and silt fencing between the work area and the wetland areas and establishing a 50-foot no-disturbance buffer zone around all wetland areas. The location of the exclusion zone will be identified on the final grading plans and construction specifications. During construction, standard BMPs will be employed that include the use of erosion control methods (such as straw wattles and erosion control blankets and mats), sediment check dams, and use of straw over disturbed areas. Previously disturbed areas will be hydroseeded with native plant species upon project completion.

Prior to and during construction of the Intertie and transmission line, an on-site qualified biologist will perform preconstruction surveys and spot-check monitoring for red-legged frog and the proper installation and maintenance of the barrier fencing. During construction of the culvert proposed at the southwestern terminus of the northernmost drainage (DMC milepost 6.95), a qualified biologist will monitor for BMP effectiveness. The biological monitor will notify the appropriate agencies immediately if any red-legged frogs are sighted.

### **Impact BIO-3: Effects on Western Burrowing Owl**

The proposed action has the potential to affect nesting and/or wintering burrowing owls and occupied nest sites on or within 250 feet of project construction. However, the following survey guidelines have been incorporated into the project description to avoid and minimize impacts on breeding and wintering burrowing owls. Therefore, potential adverse effects on western burrowing owl are considered less than significant.

- Preconstruction surveys will be performed according to the DFG guidelines for burrowing owl mitigation (California Department of Fish and Game 1995). If construction is going to take place during the breeding season (February 1–August 30), the preconstruction surveys will consist of visually checking all potential habitat within the project boundaries and within 250 feet of where construction activities could occur. If construction is going to take place during the wintering season (September 1–January 31),

preconstruction surveys will consist of visually checking all potential habitat only in areas where there would be some ground disturbance.

- A qualified wildlife biologist will conduct preconstruction surveys for burrowing owls within 1–2 weeks prior to the beginning of construction activities. If occupied burrows are found during the preconstruction surveys, Reclamation will immediately notify DFG of the burrow location(s) and will coordinate with DFG to implement appropriate avoidance and minimization measures. Passive relocation techniques may be appropriate to clear burrowing owls from occupied burrows. If it is determined that eggs or nestlings are present passive relocation may not be allowed until after the breeding season. If the destruction of occupied burrows is unavoidable, existing unsuitable burrows will be enhanced or new burrows will be created in accordance with DFG Guidelines.

#### **Impact BIO-4: Effects on Swainson's Hawk**

The Intertie component site would disturb approximately 5 acres, and the substation component site would disturb approximately 0.3 acre of previously disturbed land. As currently proposed, project activities are unlikely to affect Swainson's hawk nesting habitat. This impact is considered to be less than significant. No mitigation is required.

### **3.6.4 Cumulative Impacts**

Biological resources, particularly threatened, endangered, candidate, and other listed species, are cumulatively affected by development. The State and Federal governments, through DFG, USFWS, and NOAA Fisheries, have promulgated a regulatory scheme that limits effects on these species and other sensitive biological resources. The project has committed to complying with all applicable regulations that protect plant, fish, and animal species. Furthermore, the adoption of the identified environmental commitments, in addition to the following reasons, renders the Proposed Action's contribution to cumulative impacts less than significant.

- The dominant habitat type the Proposed Action would affect is ruderal field.
- The project area would disturb a small amount of habitat relative to the amount of ruderal field habitat available locally and project-wide.
- Activities related to the Proposed Action are temporary and vegetation is expected to recover quickly, particularly within disturbed ROWs such as maintained access roads and canal corridors.
- The pumping plant facility and associated structures, while resulting in a small amount of permanent habitat loss, are sited in an area that supports ruderal habitat and would not impede the movement or migration of any special-status animal species.

- Proposed action rights-of-way are already disturbed from soil exploration and testing activities, original construction, and ongoing maintenance activities of access roads.
- Environmental commitments have been designed and incorporated into the project design and construction approach to avoid or minimize effects on biological resources to less-than-significant levels.
- The Proposed Action will be located primarily within already-disturbed ROWs.

Furthermore, although many future projects could result in impacts on land-based resources, as described in Section 3.2.4, Water Supply Cumulative Impacts, none of these projects are located near the Proposed Action area. For these reasons, no cumulative effects on vegetation, wildlife, and wetland resources are expected.



